

What is claimed is:

1. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of:

- 5 a) an amino acid sequence consisting of SEQ ID NO:1,
- b) a naturally occurring amino acid sequence having at least 80% sequence identity to an amino acid sequence consisting of SEQ ID NO:1,
- c) a biologically active fragment of an amino acid sequence consisting of SEQ ID NO:1, and
- 10 d) an immunogenic fragment of an amino acid sequence consisting of SEQ ID NO:1.

Sub A2  2. An isolated antibody which specifically binds to a polypeptide of claim 1.

- 15 3. An antibody of claim 2, wherein the antibody is linked to a reporter molecule.
- 4. A composition comprising the antibody of claim 2 and a pharmaceutically acceptable excipient.

20 5. The antibody of claim 2, wherein the antibody is an antagonist of a polypeptide comprising the amino acid sequence of SEQ ID NO:1.

Sub A3  6. A method of preparing a polyclonal antibody with the specificity of an antibody of claim 2, the method comprising:

- 25 a) immunizing an animal with a polypeptide having the amino acid sequence of SEQ ID NO:1, or an immunogenic fragment thereof, under conditions suitable for eliciting an antibody response,
- b) isolating antibodies from the animal, and
- c) screening the isolated antibodies with the polypeptide, thereby identifying a polyclonal antibody which specifically binds to the polypeptide.

30 7. An antibody produced by the method of claim 6.

8. A method of preparing a monoclonal antibody with the specificity of an antibody

of claim 2, the method comprising:

- a) immunizing an animal with a polypeptide having the amino acid sequence of SEQ ID NO:1, or an immunogenic fragment thereof, under conditions suitable for eliciting an antibody response,
- 5 b) isolating antibody-producing cells from the animal,
- c) fusing the antibody-producing cells with immortalized cells in culture to form monoclonal antibody-producing hybridoma cells,
- d) culturing the hybridoma cells, and
- e) isolating from the culture monoclonal antibodies which specifically bind to the
- 10 polypeptide.

9. An antibody produced by the method of claim 8.

10. An antibody of claim 2, wherein the antibody is:

- 15 a) a chimeric antibody,
- b) a single chain antibody,
- c) a Fab fragment, or
- d) a F(ab')₂ fragment.

20 11. An antibody of claim 10, wherein the antibody is produced by screening a Fab expression library.

12. An antibody of claim 10, wherein the antibody is produced by screening a recombinant immunoglobulin library.

25 13. A method for detecting a polypeptide of claim 1 in a sample, the method comprising:

- 30 a) combining the sample with an antibody which specifically binds to the polypeptide under conditions suitable for specific binding between the antibody and the polypeptide, and
- b) detecting specific binding, wherein specific binding indicates the presence of the polypeptide in the sample.

14. A method of purifying a polypeptide comprising the amino acid sequence of SEQ ID NO:1 from a sample, the method comprising:

- a) combining the antibody of claim 2 with the sample under conditions suitable for formation of a complex between the antibody and the polypeptide,
- 5 b) isolating the complex formed between the antibody and the polypeptide, and
- c) recovering the polypeptide by isolating the polypeptide from the antibody under conditions suitable for disruption of the complex formed between the antibody and the polypeptide.

10 15. An isolated polynucleotide encoding a polypeptide of claim 1.

16. An isolated polynucleotide comprising a polynucleotide sequence selected from the group consisting of:

- a) a polynucleotide sequence consisting of SEQ ID NO:2,
- 15 b) a naturally occurring polynucleotide sequence having at least 90% sequence identity to a polynucleotide sequence consisting of SEQ ID NO:2,
- c) a polynucleotide sequence complementary to a),
- d) a polynucleotide sequence complementary to b), and
- e) an RNA equivalent of a)-d).

20 17. A method for detecting a target polynucleotide in a sample, said target polynucleotide having a sequence of a polynucleotide of claim 16, the method comprising:

- a) hybridizing the sample with a probe comprising at least 20 contiguous nucleotides comprising a sequence complementary to said target polynucleotide in the sample, and which probe specifically hybridizes to said target polynucleotide, under conditions whereby a hybridization complex is formed between said probe and said target polynucleotide or fragments thereof, and
- 25 b) detecting the presence or absence of said hybridization complex, and, optionally, if present, the amount thereof.

30 18. A method of screening for a compound that specifically binds to the polypeptide of claim 1, said method comprising the steps of:

- a) combining the polypeptide of claim 1 with at least one test compound under

suitable conditions, and

b) detecting binding of the polypeptide of claim 1 to the test compound, thereby identifying a compound that specifically binds to the polypeptide of claim 1.

5 19. A method of screening for a compound that modulates the activity of the polypeptide of claim 1, said method comprising:

a) combining the polypeptide of claim 1 with at least one test compound under conditions permissive for the activity of the polypeptide of claim 1,

10 b) assessing the activity of the polypeptide of claim 1 in the presence of the test compound, and

c) comparing the activity of the polypeptide of claim 1 in the presence of the test compound with the activity of the polypeptide of claim 1 in the absence of the test compound, wherein a change in the activity of the polypeptide of claim 1 in the presence of the test compound is indicative of a compound that modulates the activity of the polypeptide of claim

15 1.

20. A method for assessing toxicity of a test compound, said method comprising:

a) treating a biological sample containing nucleic acids with the test compound;

b) hybridizing the nucleic acids of the treated biological sample with a probe

20 comprising at least 20 contiguous nucleotides of a polynucleotide of claim 16 under conditions whereby a specific hybridization complex is formed between said probe and a target polynucleotide in the biological sample, said target polynucleotide comprising a polynucleotide sequence of a polynucleotide of claim 16 or fragment thereof;

c) quantifying the amount of hybridization complex; and

25 d) comparing the amount of hybridization complex in the treated biological sample with the amount of hybridization complex in an untreated biological sample, wherein a difference in the amount of hybridization complex in the treated biological sample is indicative of toxicity of the test compound.

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